

CCTGACCGGCCGGCGCCCGGGCCGGTCTCGCCCCTCTACCGAGCGCCTCGCCGCC CGGCCCCATGCCTCTGGCGCGCCCTCGGGGGGGGGGGGAAGGTGAAGATCGGCTCCTAG GATGAGTGAAGGGGCGGCCGGTGCCTCGCCACCTGGTGCCGCTTCGGCAGCCGCCGC CGGACGCGGCGAGAAGGGGCGCCGAACCCCCCGGGAGTTACGCTGTAGCGACT GCATCGTGTGGAACCGGCAGCAGACGTGGTTGTGCGTGCCTCTGTTCATCGGCTT CATCGGCCTGGGGCTCAGCCTCATGCTGCTTAAATGGATCGTGGTAGGCTCCGTCAAG GAGTACGTGCCCACGGACCTGGTGGACTCCAAGGGAATGGGCCAGGACCCCTTCTTCC TCTCCAAGCCCAGCTCTTTCCCCAAGGCTATGGAAACCACCACAACAACCACTTCTACC ACGTCCCCGCCACCCCTCTGCCGGCGCGCGCCCTTCTTCCAGGACGCCTAACCGGA TTAGCACCCGCTTGACCACCATCACACGGGCACCCACCCGCTTCCCTGGGCACCGGGT TCCCATCCGGGCTAGCCCGCGCTCTACCACAGCACGGAACACTGCTGCCCCTCCGACG GTCCTGTCCACCACGGCCCCTTTCTTCAGTAGCAGCACGCCCGGCTCCCGACCCCCGAT GCCAGGAGCCCCAGTACGCAGGCGATGCCTTCCTGGCCCACTGCGGCGTATGCTACC TCCTCCTACCTCCACGATTCCACTCCCTCCTGGACCCTGTCACCCTTTCAGGATGCTGC GCACCAGCCCAAATTTCATACTACAACATACTCCACTGAACGATCTGAGCACTTCAA ACCCTGTCGAGACAAGGACCTGGCGTATTGTCTCAATGATGGTGAATGCTTTGTGATT CGTTGTGATCAATTTCTGCCGAAAACAGACTCCATCTTATCGGATCCAACAGACCACTT GGGGATTGAATTCATGGAGAGTGAAGACGTTTATCAAAGGCAGGTGCTGTCAATTTCA TGTATCATCTTTGGAATTGTCATCGTGGGCATGTTCTGTGCAGCATTCTACTTCAAAAG CAAGAACAAGCTAAACAAATTCAGGAGCACCTGAAAGAGTCACAGAATGGGAAGAA CTACAGCCTCAAGGCATCCAGCACAAAGTCTGAGAGCTTGATGAAGAGCCATGTCCAT CTACAAAATTATTCAAAGGCGGATAGGCATCCTGTGACTGCGCTGGAGAAAATAATGG AGTCAAGTTTTTCAGCTCCCCAGTCGTTCCCAGAAGTCACTTCTCCTGACCGAGGAAG CCAGCCTATCAAGCACCACAGCCCAGGACAAAGGAGTGGGATGTTGCATAGGAATAC TTTCAGAAGGGCACCACCCTCACCCCGAAGTCGACTGGGTGGTATTGTAGGACCAGCA TATCAACAACTTGAAGAATCAAGAATTCCAGACCAGGATACGATACCTTGCCAAGGGA TAGAGGTCAGGAAGACTATATCCCACCTGCCTATACAGCTGTGGTGTTGAAAGACC CCTGGACTTAAAGTATGTGTCCAATGGCTTAAGAACCCAACAAAATGCATCAATAAAT ATGCAACTGCCTTCAAGAGAGACAAACCCCTATTTTAATAGCTTGGATCAAAAGGACC TGGTGGGTTATTTATCCCCAAGGGCCAATTCTGTGCCCATCATCCCGTCGATGGGTCTA GAAGAAACCTGCATGCAAATGCCAGGGATTTCTGACGTCAAAAGCATTAAATGGTGCA GAAGAACAACAGGAAGTGAAAATATTACTAGAGACTGTGCAGGAACAGATCCGGATT CTGACTGATGCCAGACGGTCAGAAGACTTCGAACTGGCCAGCATGGAAACTGAGGAC AGTGCGAGCGAAAACACAGCCTTTCTCCCCCTGAGTCCCACGGCCAAATCAGAACGAG AGGCACAATTTGTCTTAAGAAATGAAATACAAAGAGACTCTGTGCTAACCAAG<u>TGA</u>CT **AATACAAATTATTTATATGCATTAATTTAAGAGCATCTACTTAGAAGCC**

TCACCGACCTAGTGGACTCCACTAGGTCGGTGGGCACGTACTCCTTGACGGAGCCCAC CACGATCCATTTGAGAAGCATGAGGCGCGGCCCCATGCCTCTGCCGCGGCCCTCGGGG GGGCGAAGGTGAANACCGGCTCCTAGG<u>ATG</u>AGTGAAGGGGCGGCCGCTGCCTCGCCA CCCCGGGAGTTACGCTGTAGCGACTGCATCGTGTGGAACCGGCAGCAGACGTGGCT GTGCGTGGTACCTCTGTTCATCGGCTTCATCGGCCTGGGGCTCAGCCTCATGCTTCTCA AATGGATCGTGGTGGGCTCCGTCAAGGAGTACGTGCCCACCGACCTAGTGGACTCCAA GGGGATGGGCCAGGACCCCTTCTTCCTCTCCAAGCCCAGCTCTTTCCCCAAGGCCATG GAGACCACCACTACCACTTCCACCACGTCCCCGCCACCCCTCCGCCGGGGGGTG CCGCCTCCTCCAGGACGCCCAACCGGATTAGCACTCGCCTGACCACCATCACGCGGGC GCCCACTCGCTTCCCCGGGCACCGGGTGCCCATCCGGGCCAGCCCGCGCTCCACCACA GCACGGAACACTGCGGCCCCTGCGACGGTCCCGTCCACCGCCCCCGTTCTTCAGTA GCAGCACGCTGGGCTCCCGACCCCCGGTGCCAGGAACTCCAAGTACCCAGGCAATGCC GGACCCTGTCTCCCTTTCAGGATGCTGCCTCCTCTTCTTCCTCTCTCCTCCTCCTC CCACCACCACAGAAACTAGCACCAGCCCCAAATTTCATACGACGACATATTCCAC AGAGCGATCCGAGCACTTCAAACCCTGCCGAGACAAGGACCTTGCATACTGTCTCAAT GATGGCGAGTGCTTTGTGATCGAAACCCTGACCGGATCCCATAAACACTGTCGGTGCA AAGAAGGCTACCAAGGAGTCCGTTGTGATCAATTTCTGCCGAAAACTGATTCCATCTT ATCGGATCCAACAGACCACTTGGGGGATTGAATTCATGGAGAGTGAAGAAGTTTATCAA AGGCAGGTGCTGTCAATTTCATGTATCATCTTTGGAATTGTCATCGTGGGCATGTTCTG TGCAGCATTCTACTTCAAAAGCAAGAAACAAGCTAAACAAATCCAAGAGCAGCTGAA AGTGCCACAAAATGGTAAAAGCTACAGTCTCAAAGCATCCAGCACAATGGCAAAGTC AGAGAACTTGGTGAAGAGCCATGTCCAGCTGCAAAATTATTCAAAGGTGGAAAGGCA TCCTGTGACTGCATTGGAGAAAATGATGGAGTCAAGTTTTGTCGGCCCCCAGTCATTC CCTGAGGTCCCTTCTCCTGACAGAGGAAGCCAGTCTGTCAAACACCACAGGAGTCTAT CCTCTTGCTGCAGCCCAGGGCAAAGAAGTGGCATGCTCCATAGGAATGCCTTCAGAAG GACACCCCGTCACCCCGAAGTAGGCTAGGTGGAATTGTGGGACCAGCATATCAGCA ACTCGAAGAATCAAGGATCCCAGACCAGGATACGATACCTTGCCAAGGGATAGAGGT CAGGAAGACTATATCCCACCTGCCTATACAGCTGTGGTGTTGAAAGACCCCTGGAC TGCCTTCAAGAGAGACAAACCCCTATTTTAATAGCTTGGAGCAAAAGGACCTGGTGGG CTATTCATCCACAAGGGCCAGTTCTGTGCCCATCATCCCTTCAGTGGGTTTAGAGGAA ACCTGCCTGCAAATGCCAGGGATTTCTGAAGTCAAAAGCATCAAATGGTGCAAAAACT CCTATTCAGCTGACGTTGTCAATGTGAGTATTCCAGTCAGCGATTGTCTTATAGCAGA ACAACAAGAAGTGAAAATATTGCTAGAAACTGTCCAGGAGCAGATCCGAATTCTGACT GATGCCAGACGGTCAGAAGACTACGAACTGGCCAGCGTAGAAACCGAGGACAGTGCA AGCGAAAACACAGCCTTTCTCCCCCTGAGTCCCACAGCCAAATCAGAACGAGAGGCGC AATTTGTCTTAAGAAATGAAATACAAAGAGACTCTGCATTGACCAAG<u>TGA</u>CTTGAGAT ATTATTTATATGCATTAATTTAAGAGCATCTACTTAGAAGAAACCAAATAGTCTATCGC GGGATAAAGCTT

TTCTTCCTCTCCAAGCCCAGCTCTTTCCCCAAGGCCATGGAGACCACCACCACCACTACCACTTCCACCACG GCAAATGCCAGGGATTTCTGAAGTCAAAGCATCAAATGGTGCAAAAACTCCTATTCAGCTGACGTTG TCAATGTGAGTATTCCAGTCAGCGATTGTCTTATAGCAGAACAACAAGAAGAAGAAAAATATTGCTAGAA AGCACGCTGGGCTCCCGACCCCCGGTGCCAGGAACTCCAAGTACCCAGGCAATGCCCTCCTGGCCTAC GACCAGGATACGATACCTTGCCAAGGGTATTCATCCAGTGGTTTAAAAAACCCAACGAAATACATCAAT CCACCACAGGACGGACGGCCCCTGCGACGGTCCCGTCCACCACGGCCCCGTTCTTCAGTAGC GTCAATTTCATGTATCATCTTTGGAATTGTCATCGTGGGCATGTTCTGTGCAGCATTCTACTTCAAAAG CAAGAAACAAGCTAAACAAATCCAAGAGCAGCTGAAAGTGCCACAAAATGGTAAAAGCTACAGTCTC GTGCGTGGTACCTCTGTTCATCGCCTTCATCGGCCTGGGGCTCAGCCTCATGCTTCTCAAATGGATCGT GACCACCATCACGCGGCGCCCACTCGCTTCCCCGGGCACCGGGTGCCCATCCGGGCCAGCCCGCGCT GGTGGGCTCCGTCAAGGAGTACGTGCCCACCGACCTAGTGGACTCCAAGGGGATGGGCCAGGACCCC TGCTGCCTCCTCTTCTTCCTCTTCTTCCTCCTCCGCTACCACCACCACCAGAAACTAGCACCAGCCC CTTGCATACTGTCTCAATGATGGCGAGTGCTTTGTGATCGAAACCCTGACCGGATCCCATAAACACTG **ACCCCGAAGTAGGCTAGGTGGAATTGTGGGACCAGCATATCAGCAACTCGAAGAATCAAGGATCCCA ACTGTCCAGGAGCAGATCCGAATTCTGACTGATGCCAGACGGTCAGAAGACTACGAACTGGCCAGCG** TCCCCCGCCACCCCTCCGCCGGGGGTGCCGCCTCCTCCAGGACGCCCAACCGGATTAGCACTCGCCT TCGGTGCAAAGAAGCTACCAAGGAGTCCGTTGTGATCAATTTCTGCCGAAAACTGATTCCATCTTAT **AAAGCATCCAGCACAATGGCAAAGTCAGAGAACTTGGTGAAGAGCCATGTCCAGCTGCAAAATTATT** TAGAAACCGAGGACAGTGCAAGTGAAAACACAGCCTTTCTCCCCCTGAGTCCCACAGGCCAAATCAGA CGGATCCAACAGACCACTTGGGGATTGAATTCATGGAGAGGTGAAGATTTATCAAAGGCAGGTGCT AAATATGCAACTGCCTTCAAGAGAGACAAACCCCTATTTTAATAGCTTGGAGCAAAAGGACCTGGTG CAAATTTCATACGACGACATATTCCACAGAGCGATCCGAGCACTTCAAACCCTGCCGAGACAAGGAC CAAAGGTGGAAAGGCATCCTGTGACTGCATTGGAGAAAATGATGGAGTCAAGTTTTGTCGGCCCCCA CTTGCTGCAGCCCAGGGCAAAGAAGTGGCATGCTCCATAGGAATGCCTTCAGAAGGACACCCCCGTC GGCTATTCATCCACAAGGGCCAGTTCTGTGCCCATCATCCTTCAGTGGGTTTAGAGGAAACCTGCCT ATGAGTGAAGGGGCGGCCGCTGCCTCGCCACCTGGTGCCGCTTCGGCAGCCGCCGCCTCGGCCGAGG CGGCCGAGCCCCCCGGGAGTTACGCTGTAGCGACTGCATCGTGTGGAACCGGCAGCAGACGTGGCT **ACGAGAGGCGCAATTTGTCTTAAGAAATGAAATACAAAGAGACTCTGCATTGACCAAGTGA** 1 MSEGAAAASPPGAASAAAASAEEGTAAAAAAAAGGGPDGGEGAAEPPR 1 msegaagasppgasaaaasaeegtaaaaaaaagggpDgggegaaeppR o I hNRG3B1 mNRG3

51 ELRCSDC I V WN RQQT WLCV V P L F I G F I G L G L S L M L L K W I V V G S V K E Y V P T ELRCSDCIVWNRQQTWLCVVPLFIGFIGLGLSLMLLKWIVVGSVKEYVP 51 hNRG3B1 mNRG3

D S/T rich

101 b L v D S K G M G Q D P F F L S K P S S F P K A M E T T T T T T T S T T S A T P S A G G A A S S R T 101 DLVDSKGMGQDPFFLSKPSSFPKAMETTTTTTTSPATPSAGGAASSR hNRG3B1 mNRG3

hNRG3B1 151 PNRISTRLTTITRAPTRFPGHRVPIRASPRSTTARNTAAPATVI mNRG3 151 PNRISTRLTTITRAPTRFPGHRVPIRASPRSTTARNTAAPPTVI

201FSSSTLGSRPPVPGTPSTQAMPSWPTAAYATSSYLHDSTPSWTLSPFQD-201FSSSTPGSRPPMPGAPSTQAMPSWPTAAYATSSYLHDSTPSWTLSPFQDA hNRG3B1 mNRG3

250 - AASSSSSSSSSATTTTPETSTSPKFHTTTYSTERSEHFKPCRDLAYC ↑ T EGF - like hNRG3B1 PNRG3

NNRG3B1 299 LNDGERFVIETLTGSHKHRREGYQGVRRDOFLPKTDSILSDPTDHLG 301 LNDGEWEVIETLTGSHKHWRKEGYQGVRWDQFLPKTDSILSDPTDHLG INRG3

FIG. 4A-1

399 PONGKISTSLKASSTMAKSENLVKSHVOLONYSKVERHPVTALEKMMESSF 401 SONGKNYSLKASST - - KSESLMKSHVHLONYSKADRHPVTALEKIMESSF hNRG3B1

hnrg3b1 449 v GP Q S F P E V P S P D R G S Q S V K H H R S L S S C C S P G Q R S G M L H R N A F R R T P P S P mnrg3 449 S A P Q S F P E V T S P D R G S Q P 1 K H H · · · · · · S P G Q R S G M L H R N T F R R A P P S P

499 RSRLGG I VGP A Y Q Q L E E S R I P D Q D T I P C Q G I E V R K T I S H L P I Q L W C V E R P 492 R S R L G G I V G P A Y Q Q L E E S R I P D Q D T I P C Q G I E V R K T I S H L P I Q L W C V E R P hNRG3B1 aNRG3

HNRG3B1 549 L D L K Y S S S G L K T OR N T S I N M O L P S R E T N P Y F N S L E O K D L V G Y S S T R A S S V MNRG3 542 L D L K Y V S N G L R T Q O N A S I N M O L P S R E T N P Y F N S L D O K D L V G Y L S P R A N S V

HNRG3B1 599 PIIPS V G L E E T C L Q M P G I S E V K S I K W C K N S Y S A D V V N V S I P V S D C L M A E Q EN M B L E E T C M Q M P G I S D V K S I K W C K N S Y S A D I V N A S M P V S D C V I E E Q

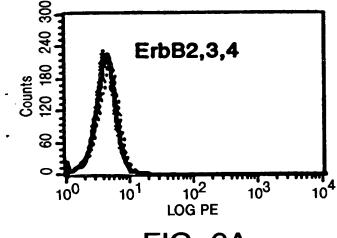
hNRG3B1649 GEVKILLETVGEGIRILTDARRSEDYELASVETEDSASENTAFLPLSPTA mNRG3 642 GEVKILLETVGEGIRILTDARRSEDFELASMETEDSASENTAFLPLSPTA

HNRG3B1 699 KSEREAQFVLRNEIQRDSALTK MNRG3 692 KSEREAQFVLRNEIQRDSVLTK FIG. 4A-2

hNRG3B1	SEGAAAASPPGAASAAASAEEGTAAAAAAAAAGGGPDGGEGAAEPP
hNRG3B2	I MSEGAAAASPPGAASAAAASAEEGTAAAAAAAAGGGPOGGEGAAEPPR
hNRG3B1 hNRG3B2	51 ELRCSDCIVWNROOTWLCVVPLFIGFIGLGLSLMLLKWIVVGSVKEYVPT 51 ELRCSDCIVWNROOTWLCVVPLFIGFIGLGLSLMLLKWIVVGSVKEYVPT
hNRG3B1	101 DLV DSK GMGQDPFFLSKPSSFPKAMETTTTTTSTTSPATPSAGGAASSRT
hNRG3B2	101 DLV DSK GMGQDPFFLSKPSSFPKAMETTTTTTSTTSPATPSAGGAASSRT
hNRG3B1	151 PNR I STRLTT I TRAPTREPGHRVP I RASPRSTTARNTAAPATVPSTTAPE
hNRG3B2	151 PNR I STRLTT I TRAPTREPGHRVP I RASPRSTTARNTAAPATVPSTTAPE
hnrg3b1	201 FSSSTLGSRPPVPGTPSTQAMPSWPTAAYATSSYLHDSTPSWTLSPFQDA
hnrg3b2	201 FSSSTLGSRPPVPGTPSTQAMPSWPTAAYATSSYLHDSTPSWTLSPFQDA
hNRG3B1 hNRG3B2	251 ASSSSSSATTTPETSTSPKFHTTTYSTERSEHFKPCRDKDLAYCLN 251 ASSSSSSSATTTTPETSTSPKFHTTTYSTERSEHFKPCRDKDLAYCLN
hNRG3B1	301 DGECFVIETLTGSHKHCRCKEGYQGVRCDQFLPKTDSILSDPTDHLGIEF
hNRG3B2	301 DGECFVIETLTGSHKHCRCKEGYQGVRCDQFLPKTDSILSDPTDHLGIEF

FIG. 4B-1

FIG. 5



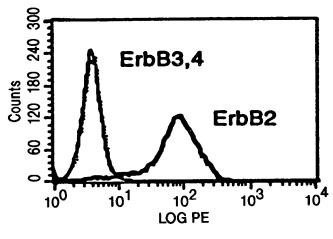
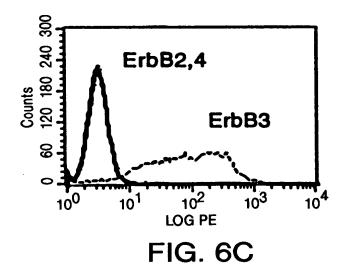


FIG. 6A

FIG. 6B



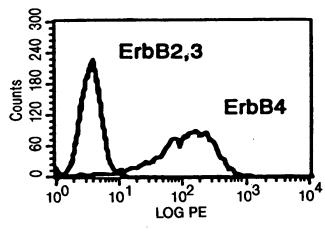
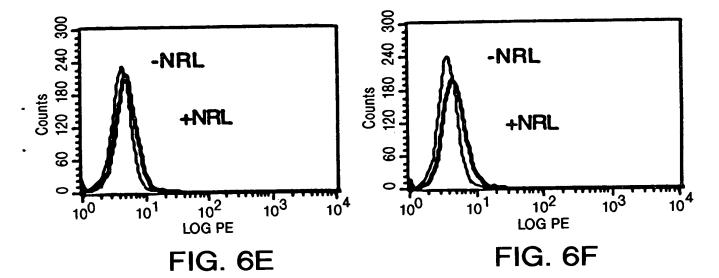
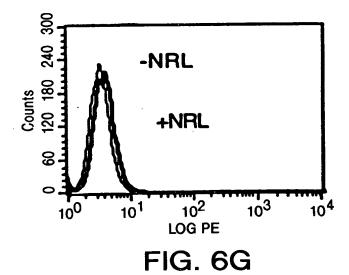
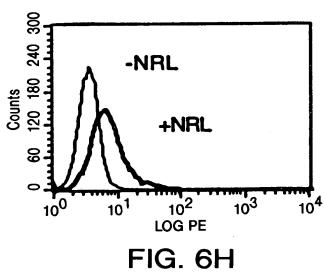


FIG. 6D







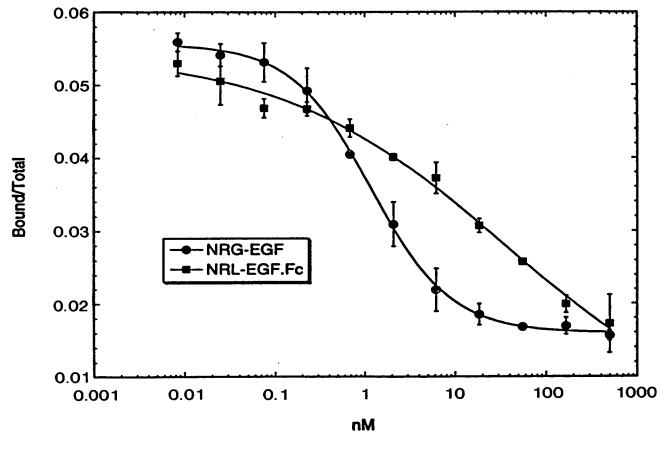


FIG. 7